

GILLENOT 2

Distr: LK20

100. Nitriding titanium steels. (In German) In: Q1116  
Not. M. T. Mil'ny. Periodica Polytechnica, Engineering  
Vol. 2, 1958, No. 1, pp. 1-17, 8 figs., 2 tabs.

The endurance limit of steels measured on polished test specimens increases in proportion with their tensile strength. With sharply notched specimens however the endurance limit of high-tensile tempered steels hardly differs from that of low-tensile mild steels. Nitriding is very suitable for increasing the endurance limit of sharply notched machine parts but the lengthy processing prevents its widespread use. Steels alloyed with titanium may be nitrided independent of their composition in a very short time, a case thickness of 0.7-0.8 mm can be obtained in 3 hours. Hardness and character of the nitrided case are a function of the Ti to C ratio. A relatively soft, deformable case may be developed on steels when the Ti to C ratio is less than 4, max. case hardness is 600 DPN, hardness gradually reduces in the direction of the core. The second group of nitriding titanium steels is constituted of steels possessing a Ti to C ratio exceeding 4. These steels can be nitrided to considerable hardness, hardness increases in proportion to the Ti to C ratio, e.g. with Ti:C = 20 a case hardness of 1400 DPN is attained. The hardness of these hard nitrided cases is uniform, decreasing abruptly in the direction of the core. The endurance limit of nitrided and then polished specimens made of soft-nitrided steels attains that of high-tensile tempered steels, in a sharply notched state their endurance limit exceeds that of notched tempered steel specimens by about 50%.

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GILLNET, I.

The role of the testing of materials in up-to-date machine sizing. In German.  
p. 251.

PERIODICA POLYTECHNICA. ENGINEERING. (Budapest Műszaki Egyetem.)  
Budapest, Hungary. Vol. 2, no. 4, 1958.

Monthly list of East European Acquisitions (EEAI) 10, vol. 8, no 2, July 1959.

Uncl.

GILLEMOT, Laszlo, dr., Kossuth-dijas, egyetemi tanar

Scientific research and the innovation movement. Ujit lap 12 no.19:  
7-8 10 0 '60.

1. Magyar Tudomanyos Akademia levelezo tagja.

GILBERT, J.

Experiences with a new kind of diploma. work. p. 117.

PERIODICA POLYTECHNICA. ENGINEERING. (Budapesti Műszaki Egyetem, Budapest, Hungary. Vol. 3, no. 2, 1959.

Monthly List of East European Accessions (SEAL) I.C. Vol. 3, no. 12, Dec. 1959.

Uncl.

HORGOS, Gyula, dr., muszaki tudományok kandidátusa (Budapest); GILLEMOT,  
Iasslo, dr., ketszeres Kossuth-díjas egyetemi tanár; FREUDENTHALL,  
A. M., dr. (USA); KRAINER, E., dr. (Austria); MUCSI, Endre;  
DEVENYI, Miklos

An account of the 2d Congress of Testing of Materials. Ujit lap 13  
no.15:8 Ag '61.

1. Koho- es Gepipari miniszterhelyettes (for Horgos) 2. Columbia  
University, New York, USA (for Freudenthall) 3. Altalanos Geptervezo  
Iroda (for Mucsi) 4. Keményfémipari Vallalat (for Devenyi)

(Testing)

S/137/62/000/007/043/072  
A057/A101

AUTHORS: Gillemot, L., Ronay, M.

TITLE: Steels which show a negligible effect of cold deformation upon the tendency to brittle fracture

PERIODICAL: Referativnyi zhurnal, Metallurgiya, no. 7, 1962, 35, abstract 71201  
("Acta techn. Acad. scient. hung.", 1961, 35 - 36, 185 -195, German)

TEXT: Reasons for the increase of the tendency to brittle fracture of steel, preliminarily treated by cold deformation (CD) were investigated, and recommendations given for the diminution of the destructive effect of CD. Fine-grained steel with 0.15% C and 0.75% Mn was investigated. The tempered steel was deformed by cold drawing with a shrinkage of 10 - 90%, and afterwards were determined  $R_y$ ,  $R_{0.2}$ ,  $R_b$ ,  $\psi$ , the effective stresses and specific work of rupture at tension, and also  $a_k$  in dependence of the degree of CD. It is demonstrated that with an increase of the degree of CD to 25% (corresponding to the limit of uniform elongation at tension),  $R_y$ ,  $R_{0.2}$ , and  $R_b$  increase ( $R_b$  - to 65 kg/mm<sup>2</sup>,  $R_{0.2}$  - to 60 kg/mm<sup>2</sup>), while  $\psi$  decreases. The change of the mentioned characteristics is

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Steels which show a...

S/137/62/000/007/043/072  
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connected with the formation of new slip (S) surfaces. Subsequent increase of the degree of CD to 65 - 70% does not change these characteristics, which is explained by the laminar S along the existing S surfaces. A further increase of the degree of CD effects again a rise of  $H_k$ ,  $\sigma_{0.2}$  and  $\sigma_b$  and decrease of  $\epsilon$ , which is connected with the stop of laminar S and the formation of a new front of dislocations in connection with the bending of the S planes; S becomes herewith turbulent. Already at a small CD,  $a_k$  decreases sharply about twice (to 15 - 20 kgm/cm<sup>2</sup>), and remains then up to CD 65 - 70% at this level without change. Until the same degree of CD no change occurs in the specific work of deformation. The embrittlement of steel in the CD process is connected with the presence of foreign atoms in the steel which are blocking dislocations. A considerable decrease of the tendency of steel to brittleness can be effected by adding elements to the steel which bind these atoms. There are 21 references.

A. Nikonov

[Abstracter's note: Complete translation.]

Card 2/2

GILLEMOT, L., prof. (Budapest, XI., Bertalan Lajos u.6)

Contributions to the question of rigid fragility of welded joints.  
Periodica polytechn eng 6 no.2: 7-113 '62.

1. Lehrstuhl für Mechanische Technologie, Technische Universität,  
und Mitglied, Schriftleitung, "Periodica Polytechnica - Engineering".

GILLEMOT, Laszlo. dr.

A new type of steel usable in cold-working. Gepgyartastechn  
3 no.6:201-204, 219 Je'63.

GILLEMOT, Laszlo, prof., dr. (Budapest, XI., Bertalan L.u.7)

A new method for determining the brittleness danger. Periodica  
polytechn eng 8 no.1:1-14 '64.

1. Lehrstuhl fur Mechanische Technologie, Technische Universitat,  
Budapest. Submitted September 30, 1963.

CONFIDENTIAL

1. The following information was obtained from a confidential source who has provided reliable information in the past.

2. The information was obtained from a confidential source who has provided reliable information in the past.

I 31357-66

SOURCE CODE: HU/2504/65/050/000/0001/0092

ACC NR: AT60211142

AUTHOR: Gillemot, L.—Zhil'mo, L. (Corresponding member MTA)

05  
B+1

ORG: none

TITLE: Simplified method for plotting Haigh and/or Smith graphs

SOURCE: Academia scientiarum hungaricae. Acta technica, v. 50, 1965, 81-92

TOPIC TAGS: graph theory, stress analysis, linear function

ABSTRACT: Affected by an alternating load superimposed onto a static mean stress, fatigue limit will be the function of the mean stress. The value of the alternating stress the superimposition of which to a given mean stress is still feasible, can be approximated by a cubical parabola. To plot the alternating stress value that can be still added to the static mean stress under a wide variety of conditions, the idea of introducing the actual stress causing fracture was introduced. Thus, it became possible to arrive at a simple linear relation between the static mean stress and the alternating stress, independent of sample shape and test temperature. The data required are only one result of static test and one result of fatigue limit test. Orig. art. has: 9 figures, 9 formulas, and 1 table. [Orig. art. in Eng.] [JPRS]

SUB CODE: 12, 20 / SUBM DATE: 16Nov64 / ORIG REF: 001 / OTH REF: 011

Card 1/1 CC

PETROV, L.P., redaktor; GILLENVA, A.V., redaktor.

[Problems of combustion; collection of translated articles]  
Voprosy goreniia. Shornik perevodov statei. Moskva, Izd-vo  
inostranoi lit-ry. Vol. 1. 1953. 291 p. (MLRA 7:1)  
(Combustion)

GILLER, A.G.

Nikolai Mikhailovich Korobkov, 1897-1947. Vop.geog. no.51:190-'91  
'61. (MIRA 14:6)  
(Korobkov, Nikolai Mikhailovich, 1897-1947)

GILBER, A.I.

KOSHEVIN, V.G., nachal'nik; INOKHENTSEV, P.P., nachal'nik; BELEVTSSEV, T.N., upravlyayushchiy; GARYAZEV, V.V., upravlyayushchiy; GRACHEV, L.I., upravlyayushchiy; KONOVALOV, G.I., upravlyayushchiy; GILLER, A.I., nachal'nik; GUBIN, M.I., glavnyy inzhener.

The Soviet miners honor Miners' Day with new industrial victories.  
Ugol' 28 no.8:5-15 Ag '53. (MLRA 6:7)

1. Kombinat Kuzbassugol' (for Kozhevin). 2. Kombinat Karagandaugol' (for Inokhentsev). 3. Trest Stalinugol' (for Belevtsev). 4. Trest Kalininugol' (for Gryazev). 5. Trest Molotovugol' (for Grachev). 6. Trest Shchekinugol' (for Kononov). 7. Shakhtoupravlenie No.9/12 tresta Shchekinugol' (for Giller). 8. Shakhta No.34 tresta Krasnoarmeyskugol' (for Gubin). (Coal mines and mining)

GILLER, A.I., laureat Leninskoy premii; GROMOV, N.V., inzh.

Pillar extraction upon depletion of the main drifts. Ugol'  
40 no.1:19-21 Ja '65. (MIRA 18:4)

1. Shakhtoupravleniye No.11-12 tresta Shchekunugol'.

DYSKINA, T.M.; GILLER, A.S.

Clinical and anatomical characteristics of ileocolic typhoid fever. Zdrav. Tadzh. 7 no. 2:28-32 Mr-Apr '60. (MIRA 13:10)

1. Iz kafedry infektsionnykh bolezney (zav. - dotsent D.M. Khashimov) Stalinabadskogo medinstituta im. Abuali ibni Sino i Stalinabadskoy gorodskoy infektsionnoy bol'nitsy.  
(TYPHOID FEVER)

SHIRYAYEV, G.A., inzh.; GILLER, E.S., inzh.

Standardization of main structures in coal mining enterprises.  
Shakht. stroi. no.12:7-10 D '57. (MIRA 11:1)

1. Institut TSentrogiproshakhtostroy.  
(Mine buildings)

OSTROVSKIY, M.Ye.; GILLER, E.S.; CHEREPOV, I.A.; MELIKHOVA, A.A.

Design for a new type of a chemical plant. Prom. stroi. 41  
no.7:13-18 J1 '64. (MIRA 17:8)

GILLER, F.; KRAVTSOVA, A.

Quality of the pancreas. Mias. ind. SSSR 34 no.4:56-58 '63.  
(MIRA 16:10)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut myasnoy  
promyshlennosti.

ROZHKOV, F.; GILLER, I.

Make available to the masses the practices of those in front.  
Metallurg 3 no.12:30-31 D '63. (MIRA 17:4)

1. Predsedatel' profsoyuznogo komiteta Magnitogorskogo metallurgicheskogo kombinata (for Rozhkov). 2. Nachal'nik normativno-issledovatel'skoy laboratorii Magnitogorskogo metallurgicheskogo kombinata (for Giller).

GILLER, I.R.

Utilization of the ANZh-2 apparatus for disinfection. Veterinariia  
33 no.5:68 My '56. (MLRA 9:8)

1. Starshiy veterinaryy vrach Vereshchaginskoy mashino-traktornoy  
stantsii, Molotovskoy oblasti.  
(Disinfection and disinfectants)  
(Spraying and dusting equipment)

GILLER, I.R.

Blomycin in the control of paratyphoid in white mice. Lab. delo  
8 [1.9.9] no.1 Ja '63. (MIRA 16:5)  
(PARATYPHOID FEVER) (AUREOMYCIN)

GILLER, I. Ye

TRAKHTER, B.S.; GARCHENKO, V.T.; GILLER, I.Ye.; SHAROPIN, V.D., redaktor;  
MIKHAYLOV, O.A., redaktor; ~~PERNOVA, F.B.~~, tekhnicheskii redaktor.

[Operation cycle regulation in an open-hearth process plant] Regla-  
mentirovannyi rezhim raboty martenovskogo tsakha. Moskva, Gos.  
nauchno-tekhn. izd-vo lit-ry po chernoi i tsvetnoi metallurgii, 1954.  
83 p. (MIRA 8:1)

(Steel industry) (Industrial management)

LESHCHINER, M.M.; GILYER, I.Ye.

Increasing labor productivity and reducing production costs at the  
Magnitogorsk Metallurgical Plant. Stal' 15 no.1:70-74 Ja '55.  
(MLRA 8:5)

1. Magnitogorskiy metallurgicheskiy kombinat.  
(Magnitogorsk--Metallurgical plants)

GILLER, M. , LOWIS, V.

Greater attention to income and expernditure balance of enterprise. Den. i k  
kred. 11, No 6, 1952.

GILLER, M.

Enlarge the sphere of decentralized clearing-house operations. Den.  
i kred. 13 no.5:23-25 My '55. (MLRA 8:7)  
(Leningrad Province--Clearing house)

PECHENIK, M.; TARASOV, M.; RAVICH, A.; GILLER, M.; EYZENBERAUN, R.;  
PAYLOVA, D.

Clearing payments and the issue of credit on special loan  
accounts. Den. 1 kred. 16 no.4:48-59 Ap '58. (MIRA 11:5)  
(Clearinghouse)

GILLER, M.

Practice of payment organization. Den. 1 kred. 18 no.9:54-58 S '60.  
(MIRA 13:8)  
(Leningrad--Transportation, Automotive--Finance)  
(Payment)

GILLER, M. (Leningrad)

"Credit for commercial enterprises" by S.A.Skorokhodov. Reviewed  
by M.Giller. Sov. torg. 35 no.8:49-50 Ag '62. (MIRA 15:8)  
(Credit) (Retail trade) (Skorokhodov, S. A.)

GILLER, M.

Credit should be secured. Den. i kred. 21 no.7:29-30 J1 '63.  
(MIRA 16:8)  
1. Nachal'nik planovo-ekonomicheskogo otдела Leningradskoy  
oblastnoy kontory Gosbanka.  
(Leningrad Province—Credit)

~~GILLER, N.Y.~~

Processing the subtropical persimmon. Kons. 1 ov. prom. 14 no.8:  
28-30 Ag '59. (MIRA 12:9)

1. Sochinskiy konservnyy kombinat imeni Lenina.  
(Persimmon)

OYLER, M. Ye.

Experience of the V.I. Lenin Sochi Canning Combine in increasing the variety of products and combining various lines of production. Kons.i ov.prom. 15 no.4:41-42 Ap '60. (MIRA 13:6)

1. Sochinskiy konservnyy kombinat imeni V.I. Lenina.  
(Sochi--Canning industry--Equipment and supplies)

GILLER, M. Ye.

Use of sorbic acid in the preservation of fruits. Kons.1 ov.prom. 16  
no.4:21-22 Ap '61. (MIRA 14:3)

- '1. Sochinskiy konservnyy kombinat.  
(Fruit--Preservation)(Sorbic acid)

ROZENFEL'D, I.L.; RUBINSHTEYN, F.I.; YAKUBOVICH, S.V.; PERSIANTSEVA, V.P.;  
Prinimali uchastiye: GILLER, R.S.; KURSKAYA, A.G.

Studying chrome acid guanidine as a corrosion inhibitor for oil  
paints. Lakokras.mat.i ikh prin. no.3:15-21 '62. (MIRA 15:7)  
(Protective coatings)  
(Guanidine)

VOITKOVICH, O.I.; GILLEN, K.Ye.; GOLDENBERG, M.S.; TOMAS, A.A.;  
KILCHINSKIY, I.M.; WISEN, I.Ye.

Production of fodder and defluorinated fertilizer phosphate.  
Enim. prom. 41 no.1:19-22 Ja '65.

(TRA 18:3)

GILLER, S. A.

Giller, S. A. - "On the possible cause of bactericidal activity of certain organic compounds, in particular a derivative furan series," Izvestiya Akad nauk Latv. SSR, 1948, No. 12, p. 15-44, - Annotation in Latvian - Bibliog: 28 items

SO: U-4355, 14 August 53, (Latopia 'Zhurnal 'nykh Statey, No. 12, 1949.)

HILLERS, S.

5

Chem Abs V48

1-25-54

Electronic Phenomena

Ultraviolet absorption spectra of 2-nitro-1,3-indandione.  
(G. Vanage, J. Biduss, and S. Hillers. *Izvestiya P.S.R. Zindinu Akad. Vsesis* 1949, No. 8 (Whole No. 25), 21-39 (Russian summary, 39-40). — Absorption spectra of 2-nitro-1,3-indandione (I) and its salts were detd. in many solvents. In highly dil. aq. soln., the nitroindandione ion is the absorbing agent, and can be represented as a resonance hybrid of 3 out of a no. of possible valence structures. In solvents of low dielec. const., such as ether and dioxane, in which the energy of shifting of the electrons is high, the enol form slowly transfers into the diketo form; the rate of reaction is proportional to the dielec. const. In 100% H<sub>2</sub>SO<sub>4</sub>, the absorption is by a mol. form of I, characterized by a superposition of 3 other electronic structures; this form is an intermediate between the diketo and the enol forms. The spectrum of the Et ester of the indandionecarboxylic acid had analogous form, but with the absorption max. shifted by 760 Å. towards higher frequency, which can be explained by structural considerations. Salts of I became colored on storage, and the spectra indicated that this is caused by intramol. shifts. A decrease in the ionization potential of the cation facilitates the formation of structures which absorb in the visible. The high ionization potential of Hg prevents formation of an ionic link and the salt of Hg with I remains colorless. Arguments in favor of H bonding in I are given. A. Dravnieks

8/26/54

# Synthesis of 4-methylstyrene

4-methylstyrene was prepared by the following procedure. A solution of 100 g (0.75 mole) of 4-methylbenzyl chloride and 100 g (0.75 mole) of sodium hydroxide in 500 ml of water was stirred at room temperature for 24 hours. The mixture was then poured into 1000 ml of water and extracted with 100 ml of ether. The ether extract was washed with 100 ml of water, dried over anhydrous calcium chloride, and then distilled under reduced pressure to give 4-methylstyrene, b.p. 106°C/1 mm Hg, n<sub>D</sub><sup>20</sup> 1.4725, d<sub>4</sub><sup>20</sup> 0.8615, and n<sub>D</sub><sup>20</sup> 1.4725. The yield was 85%.

4-methylstyrene was then polymerized with azobisisobutyronitrile (AIBN) in benzene at 60°C for 24 hours to give 4-methylstyrene polymer. The polymer was then washed with 100 ml of water, dried over anhydrous calcium chloride, and then distilled under reduced pressure to give 4-methylstyrene polymer, b.p. 106°C/1 mm Hg, n<sub>D</sub><sup>20</sup> 1.4725, d<sub>4</sub><sup>20</sup> 0.8615, and n<sub>D</sub><sup>20</sup> 1.4725. The yield was 85%.

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11-24

1. HILLERS, S.
2. SSSR (600)
4. Nitrofurantoin
7. Activities of the Academy of Sciences of the Latvian S. S. R. on the industrial application and medical acceptance of new drugs.  
Latv. PSR Zin. Akad. Vestis No. 12, 1950
9. Monthly Lists of Russian Accessions, Library of Congress, March 1953, Unclassified.

HILLERS, S.



Oxidation of furan to maleic anhydride by atmospheric oxygen in vapor-phase over a catalyst from oxides of vanadium. P. Hillers, S. Hillers, and M. Tarvid. Latvian SSR Zinatnu Akad. Vestis 1951, 443-52. — Passage of air-furan mixts. through a glass tube over  $V_2O_5$ -pumice catalyst give the following conversions to maleic anhydride. The best results are had with 2 sec. contact and a molar ratio of air to furan of 120-190 at 325°, when an 81-3% yield is secured (92-4% taking into account unreacted furan). It is suggested that the reaction proceeds by formation of the 2,5-di-HO deriv., which yields the 2,5-oxo deriv. or suffers ring cleavage with formation of  $HO_2CCH_2CH:CHCHO$ , which yields a lactone. Over a pure  $V_2O_5$  catalyst some 27% furan is oxidized to  $CO_2$ - $H_2O$  and only 13% yields maleic anhydride; when the catalyst is fully "developed" with use and consists largely of  $V_2O_5$ , some 46% conversion to maleic anhydride occurs. The high yields cited above result from a catalyst consisting of both  $V_2O_5$  and  $V_2O_4$ . G. M. K.

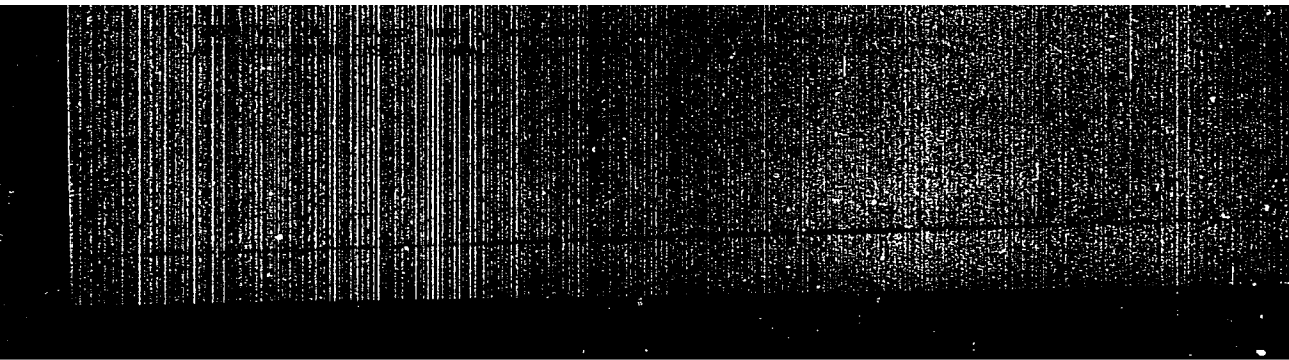
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GILLERS, S.

1. HILLERS, S.; EYDUSS, J.
2. USSR 600
4. Nitrofurans
7. Ultraviolet absorption spectra of some nitrofurans, Latv. PSR Zin. Akad. Vestis, No. 8, 1951.

9. Monthly List of Russian Accessions, Library of Congress, April 1953, Uncl.

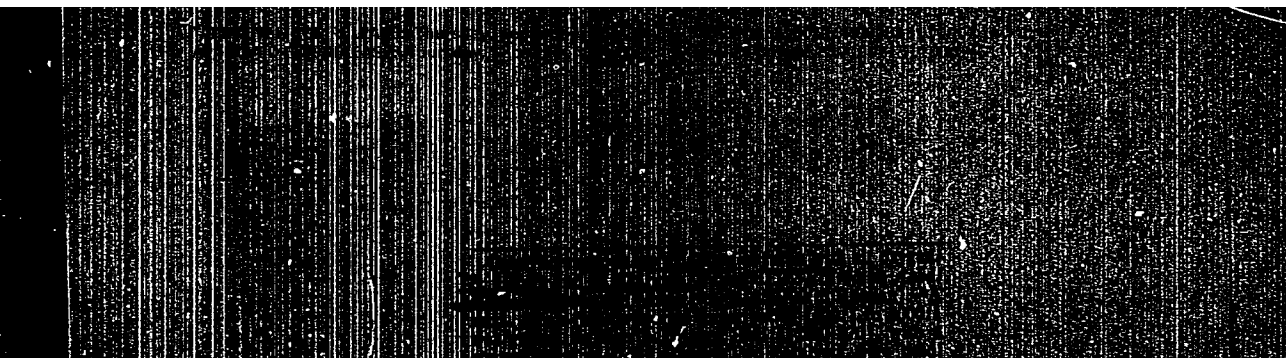
1. HILLERS, S.; BERZINA, A.
2. USSR 600
4. Nitrofurantoin
7. Crystalline modifications of 5-nitro-2-furfurylidene-aminoguanidine sulfate,  
Latv. PSR Zin. Akad. Vestis, No. 11, 1951.
9. Monthly List of Russian Accessions, Library of Congress, April 1953, Uncl.

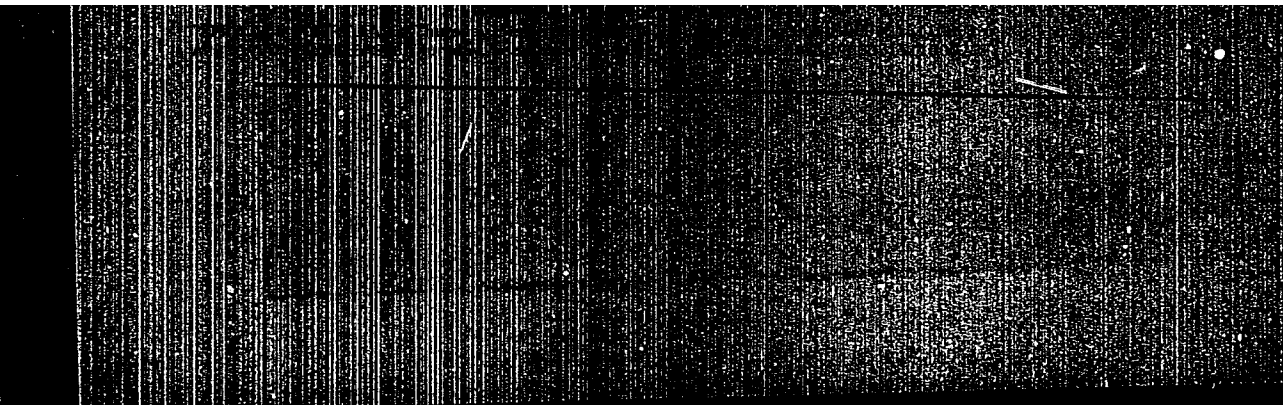


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Hilliers, S.

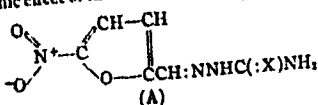
Antibacterial activity of a preparation with lactic  
acid, M. Hilliers, S. Hilliers, M. Hilliers, and  
M. Hilliers. *Laboratory of Microbiology, Virology* 1982,  
No. 10 (Vol. No. 63), 1-10 (in Russian). Prep. IN-  
78, m. 101-2, was obtained from the so-called  $\beta$ -pyridine  
fraction of the pyridine base from a phenol phase by oxida-  
tion with  $\text{KMnO}_4$  or  $\text{H}_2\text{O}_2$  with  $\text{FeCl}_3$  or in vapor phase  
with a silver catalyst, with subsequent esterification  
with  $\text{EtOH}$  and reaction with  $\text{NH}_4\text{NH}_2 \cdot \text{H}_2\text{O}$  to form a salt  
of lactic acid. The preparation had bacteriostatic activity in  
5% glucose solution against strains of *Staphylococcus* in  
dil. of  $1:8 \times 10^7$  as compared to  $1:8 \times 10^8$  for the pure  
lactic acid hydrazide. Andrew Dravnick.







3  
Some investigations of the ultraviolet absorption spectra of nitrofurans. S. A. Gilier and N. O. Soldatova. *Izvest. Akad. Nauk S.S.S.R., Ser. Fiz.* 17, 708-14(1953).  
Absorption spectra of the following furans were investigated and tabulated: furan, furfural, 2-nitrofuran, 5-nitrofuran, 5-nitrofurfural diacetate, 5-nitrofurfural semicarbazone, 5-nitrofurfural glycidylhydrazone, 5-nitrofurfural di-  
chloroacetylhydrazone, p-(5-nitrofurfurylideneamino)benz-  
aldehyde thiosemicarbazone, 6-nitro-2-bromofuran, 6,6'-  
dinitro-2,2'-difuryl sulfide, 6-nitrosylan. The introduc-  
tion of the nitro group shifts the absorption band to longer  
wave lengths. From the identity of nitrofuran and nitro-  
furfural spectra in H<sub>2</sub>O and the difference in glycerol soln.  
it can be concluded that nitrofurfural forms a hydrate. The  
bathochromic effect of the compds. of the type A is as follows:



for X = S λ = 363 mμ; for X = O λ = 375 mμ; for X =  
NH λ = 385 mμ. In alk. medium, pH 13, the absorption  
curve of a cherry-red soln. of nitrofurfural changes radi-  
cally; a max. appears at 350 mμ. It is assumed that a neg-  
atively charged ion appears in alk. media. If the CHO group is  
replaced by H, Me, or Br, no coloration appears.  
S. Pakswar.

11-10-54

Institut lesokhoz'yaistvennkh problem Akademii nauk Latvyskoy  
SSR.

GILLER, S. A.

Dissertation: "Investigation of Methods of Synthesis. Physicochemical Properties, and Interrelation Between the Structure and Biological Activity of Some Substituted Derivatives of 5-Nitrofurfurilidenimines." Cand Chem Sci, Inst of Forestry Problems, Acad Sci Latvian SSR, Riga, 1953. (Referativnyy Zhurnal--Khimiya, Moscow, No 12, Jun 54)

SO: SUM 318, 23 Dec 1954

GILLER, S. A. -- "Study of the Methods of Synthesis, Physicochemical Characteristics, and Interrelationship Between the Structure and Biological Action of Certain Substituted 5-Nitrofurfurylidenimines." Acad Sci Latvian SSR, Inst of Forestry Problems 1954 (Dissertation for the Degree of Candidate of Chemical Sciences)

SO: Izvestiya Ak. Nauk Latvyskoy SSR, No. 9, Sept., 1955

USSR:

Preparation of 1,4-dichloro-2,5-dimethylbenzene, R. D. Don  
and R. D. Don, J. Org. Chem., 1954, 19, 1000-1002.  
1,4-Dichloro-2,5-dimethylbenzene (I) was prepared in 80% yield from  
2,5-dimethyl-1,4-dichlorobenzene (II) with 20% of 10% hydrazine  
hydrate (III) in 20% of 10% hydrazine hydrate (III) at 80° then boil-  
ing. Yield 80%. mp 20-21° in water at 20° was 0.35%.  
IR (KBr): 1600, 1500, 1450, 1380, 1320, 1280, 1240, 1180, 1140, 1100, 1060, 1020, 1000, 960, 920, 880, 840, 800, 760, 720, 680, 640, 600, 560, 520, 480, 440, 400, 360, 320, 280, 240, 200, 160, 120, 80, 40, 0.  
ANAL. Calcd for  $C_{10}H_8Cl_2$ : C, 58.54%; H, 3.74%; Cl, 37.72%. Found: C, 58.5%; H, 3.7%; Cl, 37.7%.

1,4-Dichloro-2,5-dimethylbenzene (I) is a strong monobasic acid.  
It is soluble in water, 10% aqueous solution with  $FeCl_3$  a white  
precipitate forms. It is soluble in 10% aqueous solution with  
 $FeCl_3$  a white precipitate forms. It is soluble in 10% aqueous  
solution with  $FeCl_3$  a white precipitate forms. In  
aqueous solution it reacts with III to form the hydrazones.

$C_{10}H_8Cl_2$  is soluble in II, the ends of the  
molecule are in the benzene ring and are attacked by the  
double bond of the hydrazine hydrate (III). In acidic medium, II  
reacts with hydrazine hydrate (III) to form the double-  
bonded hydrazine hydrate (III) leading to a closure of  
the benzene ring.

Andrew Dravnicko

1/10 22

AUTHOR: YANUSHKOVSKIY, V.YA., GILLER, S.A. PA - 2315  
TITLE: The Conference at Riga on the Use of Radio Isotopes. (Konferentsiya v Rige po primeneniyu radioizotopov, Russian).  
PERIODICAL: Atomnaya Energiya, 1957, Vol 2, Nr 3, pp 285 - 286 (U.S.S.R.)  
Received: 4 / 1957 Reviewed: 5 / 1957  
ABSTRACT: In December 1956 a scientific conference of the Academy of Science of the Latvian S.S.R. was held at Riga, dealing with the use of radioactive isotopes in technology, biology, and medicine, in which also scientists from Moscow, Leningrad, Tallin (Reval), Wilna, and other cities participated. The president of the Latvian Academy of Science reported that the institutes of this Academy carried out a number of investigations dealing with this subject within recent years. It is the task of this conference to demonstrate the principles on which these investigations were based.  
  
Individual lectures dealt among others with the following subjects: The main trends in the application of radioactive isotopes in devices for automatic control, the application of radioactive isotopes within the field of medicine and biology, the application of gas discharge counters in contactless radioactive relays, radioactive marking of steels under industrial conditions in the Leningrad Steel Rolling Mill "MOLOTOV", the use of a radioactive donor in the device for automatic transition from one tele-

PA - 2315

The Conference at Riga on the Use of Radio Isotopes.

kinematic projector to another in the telecenter of Riga, the radioactive indicators of the level of liquids in covered containers, a radioactive control device for the filling of non-transparent containers in assembly line production, the practical application of radioactive, regulating- and signalling devices worked out in the Physical Institute of the Academy of Science of the Latvian S.S.R. (in cooperation with the factory "BEF"), various wiring circuits for radioactive relays in gas discharge counters, the experimental application of gamma rays for the radiosopic investigation of a thin metal, the application of scintillation counters in gamma-defectoscopy, the determination of the thickness of steel from the scattered gamma radiation, the attenuation of a parallel gamma bundle in layers of matter, the qualitative analysis of a mixture of radioactive isotopes from the half value periods, radioactive marked bacteria, the study of the penetration of pentode and other substances into the lignin by means of radiocarbon, the investigation of the dynamics of the shifting of chemical stimulators in the trunks of fir trees with radioactive phosphorus, the exchange of calcium in the organism of chickens (?), etc. In a resolution also work with stable isotopes and mass spectrographs was described as necessary.

Card 2/3

WILLERS, S.

GENERAL

PERIODICALS: VESTIS No.1, 1958

WILLERS, S. Determination of nitrofurans solubility in water by the help of  
polyacrylamide. In Russian. 113 p.

Monthly list of East European Accessions (EEAA) 10, Vol. 5, No. 2,  
February 1958, Unclass.

GILLER, S. A.

"Informed the assembly of the intention of Latvia (latviya) scientists to carry out research on the use of natural polymers"

**report presented at the session of the Presidium of the Council for Co-ordination of Scientific Work of the Academies of Sciences of Union Republics and Branches (on Development of Researches on Highly Molecular Compounds)  
21 June 1958. (Vest. Ak Nauk SSSR, 1958, No. 9, pp. 101-104)**

Corresponding Member, AS Latviyskaya SSR

Miller

2 May

Synthesis in the series of 2-acetylurans. N. Saldutols and A. S. Saldutols, *Trudy Vsesoyuznogo Khimicheskogo Nauchnogo Tsentra, Seriya Khimicheskaya, Khim. 1955, 2(150) (Feb. 1955)*. The title known derivatives of 2-acetylurans, e.g., the bromo-, amino-, aminoamino-, sulfonyl-, and amino sulfonyl- derivatives, were studied. The synthesis of 2-acetylurans (II) was carried out according to H. J. P. S. Rijn, 1933, except that the molar ratio of HNO<sub>3</sub> used was lowered to 1-1.5 moles for 2 mole I and 7-8% conc. H<sub>2</sub>SO<sub>4</sub> was added; the nitration was carried out at room temp. during 1-1.5 hrs. The process of acetylation of the intermediate product and the prep. of II was simplified. Under the above conditions no I was observed as a side product as in the case in the Hiltz method (C. 20, 245). It was noted that decreasing to 1 mole the ratio of HNO<sub>3</sub> to I, and increasing the yield of II to 63%. The highest yield of II (63%) was observed when nitration with 1.5 mole of 70% HNO<sub>3</sub> and 7-8% H<sub>2</sub>SO<sub>4</sub> was carried out for 1.5 hrs. The prep. of 2-acetylurans (II) was carried out in Et<sub>2</sub>O. The reaction of 2-acetylurans (II) with secondary amines gave the HCl and HBr salts of 2-acetylurans and 2-acetyluranyl bromide, and the HCl salt of 2-acetyluranyl bromide and 2-acetyluranyl bromide were obtained. To obtain the HCl salt of the corresponding amino ketones in Et<sub>2</sub>O, 2 moles of the amino salt to be used, whereas in an alc. medium the reaction could be carried out with equimolar amine, and the amino ketones in this case pptd. directly in the form of crystals of HCl salts. The dialkylaminomethyl 2-furyl ketone obtained in Et<sub>2</sub>O as a base can be pptd. (after filtration of the salt of the initial amine) in the form of the HCl salt by passing dry HCl through the Et<sub>2</sub>O soln. The reaction of II with secondary amines, e.g., pyridine, 1-methyl

piperidine, and 1-methylpyrrolidine was investigated for the 1st time. Similarly to phenacyl bromide, III reacted with equimolar amts. of the above-mentioned tertiary amines in abs. Et<sub>2</sub>O to give high yields of the corresponding ammonium salts. III reacted analogously with hexamethylenetetramine in various org. solvents, e.g., in alc., CHCl<sub>3</sub>, PhCl, and CCl<sub>4</sub>, at room temp., to give a high yield of 2-furanyl hexamethylenetetrammonium (IV) salt (80% in CHCl<sub>3</sub>). The splitting of IV bromide by HCl in an alc. medium yielded 60% 2-aminoacetyluranyl-HCl (V.HCl), which treated with HClO<sub>4</sub> yielded V.HClO<sub>4</sub>. The acetylation of V.HCl by an emulsion of Ac<sub>2</sub>O in H<sub>2</sub>O at 0° with the addn. of NaHCO<sub>3</sub> yielded 81% 2-acetamidooacetyluranyl (VI). The hydroxymethylation of VI with 80% aq. HCHO at 35° in the presence of NaHCO<sub>3</sub> yielded 60% 1-( $\alpha$ -furyl)-2-acetamido-3-hydroxy-1-propanone (VII). The 5-nitro deriv. of III with hexamethylenetetramine in CHCl<sub>3</sub> yielded 70% 5-nitro-2-furanylhexamethylenetetrammonium bromide (VIII). VIII treated with HCl in an alc. soln. yielded 18% 5-nitro-2-amidoacetyluranyl-HCl (IX.HCl), which was sepd. from the mixt. by pptn. with acetone after filtration of the ammonium salts. Contrary to V.HCl, IX.HCl was quite hygroscopic and unstable. Owing to a high sensitivity towards alkali agents, 5-nitro-2-bromoacetyluranyl (X) did not form NH<sub>4</sub> salts with secondary and tertiary amines. AcONa in glacial AcOH and X yielded 5-nitro-2-acetohydroxyacetyluranyl (XI) which hydrolyzed to 5-nitro-2-hydroxyacetyluranyl (XII). A simpler method of substitution of Br in X by the hydroxy group by the action of Na formate in MeOH, on heating, did not give pos. results. In an analogous manner 60% 2-hydroxyacetyluranyl was obtained from III, and only 12% by the action of HNO<sub>3</sub> on V.HCl. The hydrazone deriva.

Distr: 482c(j)/483d



7. Syntheses with methyl 2-furyl ketone. II.  $\alpha$ -Bromina-  
tion of methyl 2-furyl ketone and its 5-nitro derivative.  
N. Balabala and S. Hiller. *Lavija PSR Zindien Akad.*  
Peters 1958, No. 18, 11-12 (Russian); cf. C.A. 53, 11384g.  
--The reaction of  $\alpha$ -bromination of Me 2-furyl ketone and  
Me 5-nitro-2-furyl ketone was investigated, with the use of  
Br<sub>2</sub>, dioxane dibromide (I) and N-bromosuccinimide. I  
was found to give the best results with 70% and 80% yields  
of corresponding products, resp.; 18 references. M.D.

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Some new chloromercurifurans. S. Hillers and Z. Zel-  
man. *Laboratory of Chemistry of the USSR Acad. Sci.* 1938, No. 11,  
87-101 (in Russian).—5-Chloromercuri-2-methoxyfurfural,  
m. 88-9° (EtOH) (decompn.), 5-chloromercuri-2-aceto-  
furan (I), m. 142° (decompn.), and 5-chloromercuri-2-  
methylmercaptofuran, m. 88°, were prepd.; the semicar-  
bazone of I m. 118° (decompn.). Michael Dymicky

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27 May  
4E 3d  
4E 2c jp

9-9

HILLER, S.  
Distri: 4820(3)/483d

The question of the multiplicity of the bond between atoms 3 and 4 in the furan ring. S. Hiller and G. Sokolovs (Inst. Org. Synthesis, Latv. Acad. Sci., Riga). *Latvian SSR Acad. Sci. Rep.* 1958, No. 12, 126-8 (in Russian); cf. *C.A.* 27, 2368; 31, 6208; 33, 8065; 38, 5701; 43, 4918a; 47, 4360d. —Ultraviolet absorption spectra were detd. from 220 to 520 mμ, for solns. 0.001M solute in abs. EtOH, with an SF-4 quartz photoelec. spectrograph for β,β'-bis(5-nitrofurfurylidene)dihydrazide of succinic acid (I); β,β'-(5-nitrofurfurylidene)dihydrazide of fumaric acid (II); β,β'-(5-nitrofurfurylidene)dihydrazide of acetylenedicarboxylic acid (III); and β,β'-bis(5-nitrofurfurylidene)dihydrazide of 3,4-furandicarboxylic acid (IV). Spectra of I to IV are presented. The % yield of the preps. and their m.p.'s are, resp.: I 90, 236-7 (decomp.); II 97, >800 (decomp.); III 84, 237-8 (decomp.); IV 99, 236-7 (decomp.). Details of the preps. of I-IV are given. The wave lengths (mμ) of peak absorption and the corresponding extinction coeffs. are: I 260 (2900), 360 (2700);

II 240, (2800), 370 (2760); III 300 (2520); and IV 200 (1532), 360 (1030). From the ultraviolet spectra it is believed that IV shows evidence for partial double bond character and thereby establishes evidence for some aromatic character of the furan ring. R. W. Kiser

4  
1-88(10)  
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927

HILLERS, S.; Kurgan, B.; Saldabola, N.

A method for the preparation of 5 nitropyromucic acid. In Russian. p. 49.

LATVIAS PSR ZINATNU AKADEMIJA. VESTIS. RIGA, LATVIA. No. 3, 1959

Monthly List of East European Accessions. (EEAI) LC, Vol. 9, no. 2,  
Feb. 1960 Uncl.

GILLER S

1 3  
1-9-91  
Synthesis in the methyl 2-furyl ketone series. IV.  $\alpha$ -Dialkylsulfonium derivatives of methyl 2-furyl ketone and methyl 5-nitro-2-furyl ketone. N. Saldabols and S. Hillers.

Latvijas PSR Zinātņu Akad. Vēstis 1959, No. 3, 53-6 (in

Russian); cf. C.A. 53, 21862b.  $[\text{O}:\text{CH}:\text{CH}:\text{CH}:\text{CCOCH}_2\text{SR}_2]^+\text{Br}^-$ , where R = Me(I), Et(II), Bu(III), and isopentyl(IV), were prepd. by treating 0.03 mole bromoethyl 2-furyl ketone with 0.03 mole dialkyl sulfide in 12 ml.  $\text{Me}_2\text{CO}$  at  $0^\circ$  for 3-7 days; the yellowish ppt. was filtered off, washed with  $\text{Me}_2\text{CO}$  and  $\text{Et}_2\text{O}$ , and recrystd. from EtOH; I m. 149-51°, yield 68%; II m. 102-4°, yield 58%; III m. 105-6°, yield 37%; IV m. 98-9°, yield 42%.  $[\text{O}:\text{C}:$

$(\text{NO}_2):\text{CH}:\text{CH}:\text{CH}:\text{CCOCH}_2\text{SR}_2]^+\text{Br}^-$ , where R = Me(V), Et(VI), Pr(VII), Bu(VIII), and isopentyl(IX), were prepd. by treating 0.005 mole bromomethyl 5-nitro-2-furyl ketone with 0.005 mole dialkyl sulfide in 4 ml.  $\text{Me}_2\text{CO}$  off for 1-2 days at room temp.; the yellowish ppt. was filtered off, washed with  $\text{Et}_2\text{O}$ , and pptd. from EtOH soln. by  $\text{Et}_2\text{O}$ . V m. 133-4°, yield 87%; VI m. 112-14°, yield 84%; VII m. 105-6°, yield 47%; VIII m. 94-5°, yield 35%; IX m. 89-90.5°, yield 64%. Bimal C. Bal-

HILLERS, S.; Stradins, J.; Ratenbergs, N.

Dynamics of the secretion of some new nitrofuran preparation series from the organism; task and study method. In Russian. p. 107

LATVIJAS PSR ZINATNU AKADEMIJA. VESTIS. RIGA, LATVIA. No. 3, 1959

Monthly List of East European Accessions. (EEAI) LC, Vol.9, no. 2, Feb. 1960 Uncl.

GILLER, S

Distr:  $4E20(j)/4E3d$

Alkylation of furan by olefins. II. Increase of increment of molecular refractions of mono- and polyalkylfurans. S. Gillier and A. H. H. H. *Lettres PSR Zindqy Akad.*, Paris, 1959, No. 5, 100-114. Treating 2-ethyl-5-acetylfuran with hydrazine yielded 2-ethyl-5-acetylfuran hydrazone (I). Treatment of I with  $Ca(OH)_2$  at  $200^\circ$  yielded 45% 2,5-diethylfuran, b.  $105-10^\circ$ ,  $n_D^{20}$  1.4700,  $d_4^{20}$  0.8890; maleic anhydride adduct m.  $118^\circ$ . Similarly, starting with 2,5-dimethyl-3-acetylfuran hydrazone, 77% 2,5-dimethyl-3-ethylfuran was prepd., b.  $130^\circ$ ,  $n_D^{20}$  1.4622,  $d_4^{20}$  0.8990. Mol. refractions for these furans were detd. and compared with calcd. values. When the increment of 0.765, characteristic of the furan ring was not added to the sum of at. refractions in calcd. values, they agreed closer with exptl. values.

V. S. Mikhajlov

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1-27(NB)  
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GILLER, S A

Distr: 4E20(j)/4E3d "

✓ Nitration of 2-furyl- $\beta$ -nitroethylene, S. Gillery and M. Berkman. *Labijas PSR Zindign Akad. Vests* 1959, No. 5, 115-116.

115-116. The yield of 5-nitro-2-furyl- $\beta$ -nitroethylene (I) in nitration of 2-furyl- $\beta$ -nitroethylene by concd. HNO<sub>3</sub> (II) in Ac<sub>2</sub>O was max. when the molar ratio of I to II was 1:4. This modified method gave 70-80% yields when dioxane was used for recrystn. V. S. Mihailov.

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1-99(N/A)

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STRADYN' Ya. [Stradins, J.] (Riga); GILLER, S. [Hillers, S.] (Riga); DZENE, A.  
(Riga)

Polarographic reduction of some derivatives of 5-nitrofurane,  
possessing chemotherapeutic activity. Vestis Latv ak no.12:71-78  
'59. (EEAI 9:11)

1. Akademiya nauk Latviyskoy SSR, Institut organicheskogo sinteza.  
(Polarograph and polarography)  
(Nitrofurane)

5.4600  
5.3100

67264

5-3)

AUTHORS: Stradin', Ya., Giller, S., Academician SOV/20-129-4-28/68  
AS LatvSSR, Yur'yev, Yu.

TITLE: Polarographic Reduction of 2-Nitrofuran<sup>1</sup> Derivatives and  
2-Nitroselenophene<sup>1</sup> Derivatives

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 129, Nr 4, pp 816 - 819  
(USSR)

ABSTRACT: The authors ascertained the influence exercised by the substitu-  
ents in the 5th position of the furan- and selenophene cycle on  
the polarographic reduction process of the nitro groups in the  
second position. Thus, they completed the data of publications  
by new examples. The derivatives mentioned in the title may now  
be compared to the nitro derivatives of the aromatic series.  
Table 1 gives the derivatives I-XXV investigated in the present  
paper under vigorous conditions. It was found that the mechanism  
of polarographic reduction of the mentioned derivatives is the  
same as that of nitrobenzene- (Ref 7) and of 2-nitrothiophene  
(Ref 11) derivatives. Also the semiwave potentials  $E_{1/2}$  of the  
nitro derivatives of the mentioned series are closely related.  
The comparison of these series leads to the conclusion that the  
nitro group of 2-nitrofuran derivatives is the most easily to be

Card 1/3

67264

Polarographic Reduction of 2-Nitrothiophene Derivatives and SOV/20-129-4-28/68  
2-Nitroselenophene Derivatives

reduced. This is more difficult in the case of 2-nitrothiophene- and 2-nitroselenophene (which requires by 20-30 mv more) and still more difficult for nitrobenzene derivatives (by 40 mv more). From the investigation of this series of derivatives the influence exercised by the substituents on the polarographic reduction of the nitro group may be quantitatively estimated on the basis of the  $E_{1/2}$  displacement of the substituted compound compared to the non-substituted one. In the series of nitrobenzene and nitrothiophene this displacement may be expressed by the Hammett equation. It may be concluded from the data given by the authors that this holds also for the derivatives mentioned in the title if the same values of  $\sigma$  are assumed for the substituents in the heterocycles as apply for the aromatic series, and if the numerical values of  $\Delta E_{1/2}$  and  $\rho$  are compared for an equal pH value in a weakly acid medium. The behavior of the 2,5-substituted derivatives of the 5-membered heterocycles corresponds to the behavior of the p-substitutes of the aromatic series. The behavior of the former however strongly differs from that of the m-substitutes. This agrees on the whole with the rules of

67764

Polarographic Reduction of 2-Nitrofuran Derivatives and SOV/20-129-4-28/68  
2-Nitroselenophene Derivatives

orientation found in the study of the reactivity of the substituted furans. However, further polarographic measurements are necessary in this case. The influence exercised by the substituents over an additional group -CH=CH- in the side chain is in general not high. The reduction of 5-nitro furfural proceeds in a characteristic manner (Scheme). There are 1 table and 16 references, 9 of which are Soviet. ✓

ASSOCIATION: Institut organicheskogo sinteza Akademii nauk LatvSSR (Institute of Organic Synthesis of the Academy of Sciences of the Latvian SSR). Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova (Moscow State University imeni M. V. Lomonosov)

SUBMITTED: July 21, 1959

GILLER, S. A.

PHASE I BOOK EXPLOITATION 357/350

Sovetskoye po khimii, tekhnologii i prikladnoy khimii  
 pirodin i kinolin. Moskva, 1957

Khimiya, tekhnologiya i prikladnoye proizvodstvo pirodin i kinolin: Materialy svedeniya (Khimiya, tekhnologiya i prikladnoye proizvodstvo pirodin i kinolin: Materials of the Conference) Moskva, 1960. 299 p. Erata slip inserted. 1,000 copies printed.

Sponsoring Agencies: Akademii nauk Latvyskoy SSR, Institut khimii Vsesoyuznogo khimicheskogo obshchestva.

Ed.: S. BASHAROVA; Tech. Ed.: A. ELYANINA; Editorial Board: N. A. BASHAROVA, V. A. ELYANINA, L. P. ZAIKAYEV, Doctor of Chemistry, and M. M. KALININ.

PURPOSE: This book is intended for organic chemists and chemical engineers.

COVERAGE: The collection contains 33 articles on methods of synthesizing or producing pyridine, quinoline, and their derivatives from natural sources. No personalities are mentioned. Figures, tables, and references accompany the articles.

III. SYNTHESIS BASED ON PYRIDINE AND QUINOLINE

Shimanskaya, N. V., and S. A. ZAIKAYEV. Institute for Organic Synthesis of the Academy of Sciences of the Latvian SSR. Vapor Phase Contact Oxidation of Pirodin 165

Vozna, A. P., V. A. KALININ, N. P. IURTSOVA, and L. V. YEREMOVA. Vsesoyuznyy nauchno-issledovatel'skiy khimicheskii institut (All-Union Research Scientific Institute). Mobility of the Alkyl (Phenyl) Group in Quaternary Salts and in Salts of Pyridine (Phenyl) Pyridine 165

Stepanyuk, E. N., and N. A. AGAROVA. [Kafedra organicheskoy khimii Moskovskogo instituta fiziko-khimiicheskoy khimii Vsesoyuznogo nauchno-issledovatel'skogo instituta prikladnoy khimii (Department of Organic Chemistry of the Moscow Institute for Applied Chemistry)]. Synthesis of the Methyl Derivatives of Pyridine and Quinoline. Scientific Research Institute for Synthetic Chemistry and Dyes, Ministry of the Chemical Industry (SNIIC), Construction of Alkyl Pyridine with Keto Halides 203

Vasilenko, D. M., and S. A. ZAIKAYEV. [Kafedra organicheskoy khimii Moskovskogo instituta fiziko-khimiicheskoy khimii Vsesoyuznogo nauchno-issledovatel'skogo instituta prikladnoy khimii (Department of Organic Chemistry of the Moscow Institute for Applied Chemistry)]. The Use of Alkylated Nitrogen-Containing Heterocyclic Compounds for Synthesis of Carbazole, Quinoline and Quaternary Substances 207

Zaikayev, L. P., and E. N. STEPANYUK. [Institut khimii Akademii nauk Latvyskoy SSR]. Synthesis and Reactions of  $\alpha$ -Methoxyquinolines 223

SHIMANSKAYA, M.(Riga); GILLER, S.[Hillers, S.](Riga)

Effect on the activity of the content of vanadous catalysts in the  
process of vapor-phase furfurole oxidation. Vestis Latv ak no.9:  
93-102 '60. (KEAI 10:9)

1. Akademiya nauk Latvyskoy SSR, Institut organicheskogo sinteza.

(Catalysts) (Vanadium) (Furaldehyde)

**ELYUGER, A.F.; GILLER, S.A.; SHENIGSON, B.S.**

Studies on the antilambliar effect of nitrofurans and first results of their use in the treatment of human lamblasis. Med. paraz. i paraz.bol. 29 no.6:646-647 '60. (MIRA 14:2)

1. Iz Instituta organicheskogo sinteza Akademii nauk Latvyskoy SSR, Rzhskogo meditsinskogo instituta i Respublikanskoy sanitarno-epidemiologicheskoy stantsii Latvyskoy SSR.  
(GIARDIASIS) (FURAN)

SHIMANSKAYA, Mariya Vladislavovna; SLAVINSKAYA, Valentina Aleksandrovna;  
~~GILLER, S. A.,~~ akademik, red.; DYMARSKAYA, O., red.; LEMBERGA, A.,  
tekhn. red.

[Analysis of furfurole] Analiticheskoe opredelenie furfurola. Riga,  
Izd-vo Akad. nauk Latviskoi SSR, 1961. 182 p. (MIRA 14:11)

1. Akademiya nauk Latviyskoy Sotsialisticheskoy Respubliki (for Giller)  
(Furaldehyde)

LUKEVITS, E.[Lukovics, E.](Riga); GILLER, S.[Hillers, S.](Riga)

Reaction of triethylsilane with mercury salts. Vestis Latv ak  
no.4:95-98 '61. (EEAI 10:9)

1. Akademiya nauk Latvyskoy SSR, Institut organicheskogo sinteza.

(Triethylsilane) (Mercury)

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24115  
S/197/61/000/004/003/004  
B101/B229

AUTHORS: Lukevits, E., Giller, S.

TITLE: Syntheses in the series of furan-containing organosilicon compounds. Information I. Reduction of furyl-, phenyl-, and thienyl mercury chloride by means of triethyl silane

PERIODICAL: Izvestiya Akademii nauk Latviyskoy SSR, no. 4, 1961, 99-102

TEXT: The purpose of the present work was to investigate the interaction between organomercury furan derivatives and silanes to obtain furyl silanes. The tests showed that furyl mercury chloride neither reacts with  $\text{SiF}_4$ ,  $\text{SiCl}_4$  in benzene, nor with  $(\text{C}_2\text{H}_5)_3\text{SiCl}$  dissolved in o-xylene. A reaction was not achieved, neither after 24 hr nor at  $145^\circ\text{C}$ . If, however, triethyl silane was used instead of halogen silane, furyl mercury chloride was reduced with separation of mercury. Triethyl silane showed the same reducing effect with thienyl mercury chloride and phenyl mercury chloride. The reaction is accelerated if it is achieved in a solvent (dioxane, alcohol, or pyridine). In anhydrous pyridine the rate of reduction increases in the

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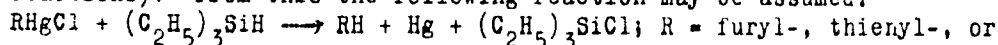
24115

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B101/B229

Syntheses in the series ...

order: phenyl mercury chloride < furyl mercury chloride < thienyl mercury chloride. If a reaction is achieved without a solvent, or in dioxane, triethyl silane changes to triethyl-chlorosilane. If ethanol is used as solvent, triethyl silane changes to triethyl ethoxy silane. In pyridine a complex is formed from triethyl chlorosilane and pyridine. After decomposition of the reaction mixture by means of water, and extraction by means of ether, the ether extract contains only triethyl silanol and the corresponding hydrocarbon: benzene (identified as m-dinitro benzene), thiophene (identified as thienyl mercury chloride), or furan (proved by qualitative reactions). From this the following reaction may be assumed:



phenyl radical. Difuryl mercury, dissolved in pyridine, could not be reduced by triethyl silane. For the reaction of triethyl silane with phenyl mercury chloride, it is indicated: to 15.7 g phenyl mercury chloride, 4 g pyridine and 5.8 g triethyl silane were added, the solution was boiled for 4hr. After cooling off, 9.6 g Hg (=96%) were filtered off. The fraction distilled off at 80-81°C was nitrified. By crystallization from ethanol the m-dinitro benzene was obtained. At 146 - 148°C triethyl chlorosilane distilled over. If water was added to the solution filtered off from Hg,

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extracted with ether, the triethyl silanol distilled over from the extract at 153 - 154°C. The reaction with other mercury compounds was carried out in the same way. The results are shown in Table 2:

Hg compounds,	mole	(C <sub>2</sub> H <sub>5</sub> ) <sub>3</sub> SiH, mole	solvents	duration of reaction, hr	obtained Hg, %
Phenyl mercury chloride	0.05	0.05	without	55	12.6
ditto	0.1	0.1	dioxane	36	80
furylmercury chloride	0.05	0.05	ethanol	4	98
phenyl mercury chloride	0.1	0.1	pyridine	2	78.4
furyl mercury chloride	0.1	0.1	pyridine	2	86.25
thienyl mercury chloride	0.1	0.1	pyridine	2	98

A paper by Z. M. Manulkin (Ref.10: ZhOKh, 1946, 16, 235) is mentioned.

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B101/B229

There are 2 tables and 14 references: 5 Soviet-bloc and 9 non-Soviet-bloc. The most important reference to English-language publication reads as follows: R. Benkeser, D. Hoke, R. Hickner, J. Am. Chem. Soc., 1958, 80, 5294.

ASSOCIATION: Institut organicheskogo sinteza AN Latv SSR (Institute of Organic Synthesis, AS Latviyskaya SSR)

SUBMITTED: January 13, 1961

VENTER, K.[Venters, K.]; GILLER, S.<sup>A</sup>[Hillers, S.]; LAZDYN'SH, A.[Lazdins, A.]

Synthesis in the series of 5-nitro-2-furylpolyalkenyls and 5-nitro-2-furylpolyalkenes. Report 4. Nitration of  $\beta$ -(furyl)-acrolein and synthesis of certain unsaturated furan aldehydes and ketones. Vestis latv ak no.5:87-97 '61.

1. Akademiya nauk Latvyskoy SSR, Institut organicheskogo sinteza.

LUKEVITS, E.[Lukavics, E.]; GILLER, S.[Hillers, S.]

Interaction of triethylsilane with mercury salts. Izv. AN Latv.  
SSR no.4:95-98 '61. (MIRA 16:1)

1. Institut organicheskogo sinteza AN Latvyskoy SSR.

(Silane) (Mercury salts)

LIDAK, M.[Lidaks, M.]; GILLER, S.[Hillers, S.]

Some reactions of ethylenimine. I. Reaction of ethylenimine with aliphatic and carbocyclic aldehydes and ketones. Vestis latv ak no.5: 99-108 '61.

1. Akademiya nauk Latvyskoy SSR, Institut organicheskogo sinteza.

LIDAK, M. [Lidaks, M.]; GILLER, S. [Hillers, S.]

Some reactions of ethylenimine. II. Reaction of ethylenimine with benzaldehyde, furfural and their derivatives. Vestis Latv ak no.7: 49-58 '61.

1. Akademiya nauk Latvyskoy SSR, Institut organicheskogo sinteza.

(Ethylenimine) (Benzaldehyde) (Furaldehyde)

5 3700

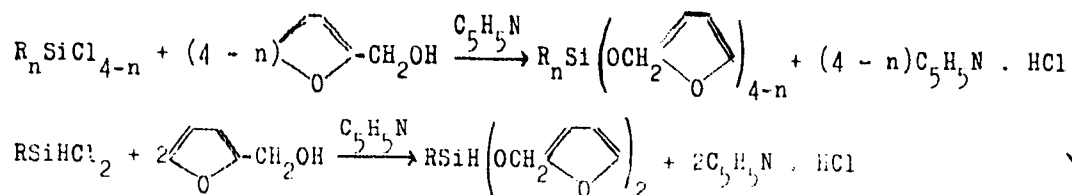
S/197/61/000/007/002/002  
 B117/B101

AUTHORS: Lukevits, E., Romadan, Yu., Giller, S.

TITLE: Syntheses in the series of furan-containing organosilicon compounds, synthesis of furfuryloxy silanes

PERIODICAL: Izvestiya Akademii nauk Latveyskoy SSR, no. 7 (168), 1961, 59-61

TEXT: The authors employed three methods for producing furfuryloxy silanes. Most of these compounds were prepared by the interaction of alkylchlorosilanes  $R_nSiCl_{4-n}$  and alkylchlorosilanes  $RSiHCl_2$  with furfuryl alcohol in the presence of pyridine (method A):

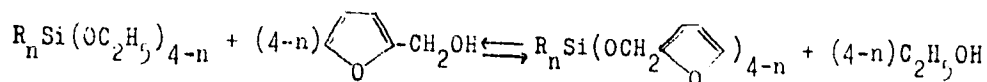


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The reactions were made in a three-necked flask with mechanical stirrer, dropping funnel, and reflux cooler with calcium chloride tube. In the case of  $C_2H_5SiHCl_2$  not only ethyl difurfuryloxy silane but also ethyl trifurfuryloxy silane were isolated. This indicates that the reaction partially proceeds via the Si-H bond. Re-esterification of ethoxy silanes with furfuryl alcohol (method B) is simpler from the experimental point of view:



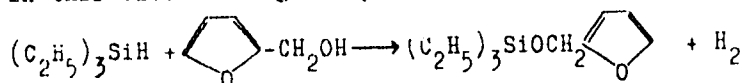
In some cases, however, the reaction proceeds slowly and the separation of the main product is rendered difficult by the impurities of the partially substituted esters. The best results could be obtained when using sodium furfurylate as a catalyst. The reactions were made in a distilling flask with dephlegmator in oil bath. For the production of trialkyl furfuryloxy silanes dehydrocondensation of hydride silanes with alcohols in the presence of metallic sodium (Ref. 11: B. N. Dolgov, N. P. Kharitonov, M. G. Voronkov, ZhOKh, 24, 1178, (1954)) was successfully employed (method E).

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In this case the highest yields were obtained:



Using these three methods the entire series of methyl furfuryloxy silanes and ethyl furfuryloxy silanes as well as methyl ethyl difurfuryloxy silane, ethyl dipropyl furfuryloxy silane, trifurfuryloxy silane and tetra-furfuryloxy silane were obtained (Table 1). Most of the furfuryloxy silanes are colorless liquids with a characteristic smell and turning yellow on standing. At temperatures of 145°C and higher, the furfuryloxy silanes distilled in the vacuum are yellowish. The furfuryloxy silanes are soluble in ether, ethanol, benzene, and toluene, and insoluble in water. On heating they are gradually polymerized while forming brown non-distillable, highly viscous substances. All frequencies characteristic of the disubstituted furans can be observed in the infrared spectrum (Table 2) There are 2 tables and 17 references: 8 Soviet-bloc and 9 non-Soviet-bloc. The three most important references to English-language publications read as follows: Ref. 15: A. Cross, S. Stevens, T. Watts. J. Appl. Chem., 7, ✓

Syntheses in the series of ...

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B117/B101

562 (1957); Ref. 16: N. Wright, M. Hunter. J. Amer. Chem. Soc., 69, 803  
(1947); Ref. 17: A. Katritzky, I. Lagovski. J. Chem. Soc., 1959, 657.

ASSOCIATION: Institut organicheskogo sinteza AN Latv. SSR (Institute of  
Organic Synthesis AS Latviyskaya SSR)

SUBMITTED: May 6, 1961

Table 1: constants of furfuryloxy silanes.

Legend: 1) furfuryloxy silane; 2) synthesis method; 3) boiling temperature,  
°C; 4) pressure, mm Hg; 5) found; 6) calculated; 7) yield %.

Table 2: infrared absorption spectra of furfuryloxy silanes.

Legend: 1) compound; 2) valence vibrations of the furan ring; 3) pulsation  
of the ring; 4) deformation vibrations of the C-H bond; 5) planar; 6) extra-  
planar; 7) references; 8) vibrations of the Si-x bond; 9) deformation  
vibrations; 10) other frequencies.

Card 4/7

SLAVINSKAYA, B.A.; SHIMANSKAYA, M.V.; GILLER, S.A.; IOFFE, I.I.

Kinetics of the vapor-phase contract oxidation of furfurole.  
Kin. i kat. 2 no.2:252-257 Mr-Ap '61. (MIRA 14:6)

1. Institut organicheskogo sinteza AN Latvyskoy SSR, Riga i  
Nauchno-issledovatel'skiy institut organicheskikh poluproduktov  
i krasiteley imeni K. Ye. Voroshilova.  
(Furaldehyde) (Oxidation)

ZAYEVA, S.P.; GILLER, S.A.; GERMANE, S.K.; STRADYN', [Stradin, J.P.];  
ALEKSEYEVA, L.N.; KRUMETRA, L.V.; AL'BERTE, M.A.; AYZPURIETE,  
I.F. [Aizpuriete, I.F.]; KALNBERG, R.Yu. [Kalinberg, R.J.]

Experimental study of furazolin (F-150), a new preparation of the  
nitrofurane series. Zhur.mikrobiol., epid. i immun. 32 no.10:  
17-20 0 '61. (MIRA 14:10)

1. Iz Instituta organicheskogo sinteza AN Latvyskoy SSR.  
(FURAN)

VERINA, K.I.; GILLER, S.I., akademik

Nitration of some  $\alpha,\beta$ -unsaturated aldehydes and ketones of the  
Acyron series. Dokl. Ak. SSSR 137 no. 1:83-86 Apr-Apr '61.  
(MIRA 14:2)

1. Institut organicheskogo sinteza AN Latvyskoy SSR. 2. AN  
Latvyskoy SSR (for Giller).  
(Aldehydes) (Ketones) (Nitration)

VENTER, K.K.; GILLER, S.A., akademik; KUCHEROV, V.F.; TSIRULE, V.V.  
[Cirule, V.]; KARKLINYA, A.M. [Karklina, A.]

Syntheses in the domain of 5-nitrofuryl-2-polyalkenals and 5-nitrofuryl-2-polyalkenones. Reaction of carbethoxymethylene-triphenylphosphorane and acetylmethylene-triphenylphosphorane with  $\alpha,\beta$ -unsaturated and polyene aldehydes of the 5-nitrofuran series. Dokl. AN SSSR 140 no.5:1073-1075 0 '61.

(MIRA 15:2)

1. Institut organicheskogo sinteza AN Latviyskoy SSR.
2. AN Latviyskoy SSR (for Giller).
  - (Phosphorane)
  - (Furan)
  - (Aldehydes)

EYDUS, Ya.A. [Eiduss, J.]; VENTER, K.K.; GILLER, S.A., akademik

Effect of terminal substituents in 5-nitrofurylpolyene derivatives  
on their electron spectra. Dokl. AN SSSR 141 no.3:655-658 N '61.  
(MIRA 14:11)

1. Institut organicheskogo sinteza AN Latviyskoy  
SSR i Latviyskiy gosudarstvennyy universitet im. P. Stuchki.
2. AN Latviyskoy SSR (for Giller).  
(Olefins—Spectra)

STRADYEV, YA.P. AND GILLER, S.A.

"Die polarographische untersuchung einiger chemotherapeutika der nitrofuranreihe."

Report submitted to the Oscillopolarography Course and Polarography Symp.  
Jena, GDR 10-15 Sep 1962

GILLER, S.A., otv. red.; BLYUGER, A.F., red.; SHIMANSKAYA, M.V., red.;  
DYMARSKAYA, O., red.; LEMBERGA, A., tekhn. red.

[Furazolidone]Furazolidon. Riga, Izd-vo Akad. nauk Latviskoi  
SSR, 1962. 145 p. (MIRA 15:12)

1. Latvijas Padomju Socialistiskas Republikas Zinatnu Akaderija.  
Organiskas sintezes institut. 2. Direktor Instituta organicheskogo  
sintezs Akademii nauk Latviyskoy SSR (for Giller). 3. Institut or-  
ganicheskogo sintezs Akademii nauk Latviyskoy SSR (for Shimanskaya).  
4. Kafedra infektsionnykh bolezney Rzhskogo meditsinskogo instituta  
(for Blyuger).

(OXAZOLIDINONE)

SLAVINSKAYA, V.A.; GULEVSKIY, E.K.; SHIMANSKAYA, M.V.; GILLER, S.A.;  
IOFFE, I.I.

Kinetic# of furfurole catalytic oxidation. Kin.i kat. 3  
no.2:276-281 Mr-Ap '62. (MIRA 15:11)

1. Institut organicheskogo sinteza AN Latvyskoy SSR, Riga i  
Nauchno-issledovatel'skiy institut organicheskikh poluproduktov  
i krasiteley imeni K.Ye.Voroshilova, Moskva.  
(Furaldehyde) (Maleic anhydride) (Catalysts)

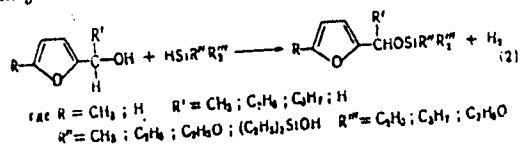
S/020/62/145/004/017/024  
 B110/B144

AUTHORS: Lukevits, E. Ya., Romadan, Yu. P., Giller, S. A., Academician  
 AS LatSSR, and Voronkov, M. G.

TITLE: Organosilicon compounds of the furan series. Organosilicon  
 derivatives of furyl carbinols and 5-substituted furfuryl  
 alcohols

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 145, no. 4, 1962, 806 - 808

TEXT: Furfuryl oxysilanes were produced: (1) by reaction of trialkyl  
 chlorosilanes with furyl alkyl and furyl aryl carbinols, (2) by reaction  
 of silanes with furfuryl alcohol, 5-methyl furfuryl alcohol, and furyl  
 alkyl carbinols



using 10<sup>-5</sup> moles of H<sub>2</sub>PtCl<sub>6</sub> per 1 mole of isopropyl alcohol as catalyst at

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3/020/62/145/004/017/024  
B110/B144

Organosilicon compounds of the ...

80 - 100°C. Their composition and properties are indicated (Table).  
5-nitro-furfuryl oxytrimethyl silane was obtained from ethereal solutions  
of 5-nitro-furfuryl alcohol, pyridine, and trimethyl chlorosilane.  
Silane reacts with  $H_2PtCl_6$  in isopropyl alcohol to give furfuryl oxysilane.  
Dioxane containing 0.05 moles of  $H_2O$  hydrolyzes triethyl silane in the  
presence of  $H_2PtCl_6$  to give triethyl silanol. Triethyl silane reacting  
with triethyl silanol in the presence of  $H_2PtCl_6$  yields small amounts of  
hexaethyl disiloxane by anhydrocondensation. There is 1 table.

ASSOCIATION: Institut organicheskogo sinteza Akademii nauk LatvSSR  
(Institute of Organic Synthesis of the Academy of Sciences  
LatvSSR)

SUBMITTED: March 12, 1962

Table. Furfuryl oxysilanes ( $R'-\text{Si}-R''$ ). Legend: (1) mode of production,  
(2) boiling point, °C, (3) pressure, mm Hg.

Card 2/12

GILLER, S.A., akademik; MEDNE, K.K.; VENTER, K.K.; GERMANE, S.K.;  
ZHE, A.Ya.

Tuberculostatic effect of certain derivatives of unsaturated  
aldehydes and ketones of the 5-nitrofuran series. Dokl. AN SSSR  
144 no.1:108-111 My '62. (MIRA 15:5)

1. Institut organicheskogo sinteza AN Latv SSR. 2. AN Latv SSR  
(for Giller).  
(Tuberculosis-Prevention) (Furan)